

## Air Quality and Dust Monitoring Monthly Report – December 2021

London Borough of Ealing



## Department for Transport

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High Speed Two (HS2) Limited,  
Two Snowhill  
Snow Hill Queensway  
Birmingham B4 6GA

Telephone: 08081 434 434

General email enquiries: [HS2enquiries@hs2.org.uk](mailto:HS2enquiries@hs2.org.uk)

Website: [www.gov.uk/hs2](http://www.gov.uk/hs2)

A report prepared by EWCs and MWCCs on behalf of HS2 Ltd.

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# Monthly Summary

- 1.1.1 This Summary Report is published in fulfilment of commitments detailed in the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, Annex 1: Code of Construction Practice, for the nominated undertaker to present the results of air quality and dust monitoring undertaken in the London Borough of Ealing (LBE) during November and December 2021 respectively.
- 1.1.2 Figure 1 to Figure 3 in Appendix A indicate the current worksites together with air quality and dust monitoring locations.
- 1.1.3 This summary should be read in conjunction with the overview monitoring report available from [www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2](http://www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2), which highlights: the applicable standards and guidance, as well as the air quality and dust monitoring methodologies to be implemented by nominated undertakers throughout construction.
- 1.1.4 The current phase of construction works commenced in October 2019 and is expected to be completed by 2025. The current worksites, as presented in Appendix A, Figure 1 to Figure 3, include:

**Old Oak Common Depot** (located in the London Borough of Hammersmith and Fulham)

- Mobilisation; and
- New site set up for the station works contractors..

**Victoria Road Crossover Box and Flat Iron Site**

- Groundworks;
- Piling operations; and
- Conveyor construction.

**Willesden Euro Terminal**

- Excavated material spoil management.

**Atlas Road**

- Piling operations;
- Groundworks; and
- Conveyor construction.

**Green Park Way Vent Shaft**

- Groundworks; and
- Piling operations.

**Mandeville Road Vent Shaft**

- Groundworks; and

- Piling operations.

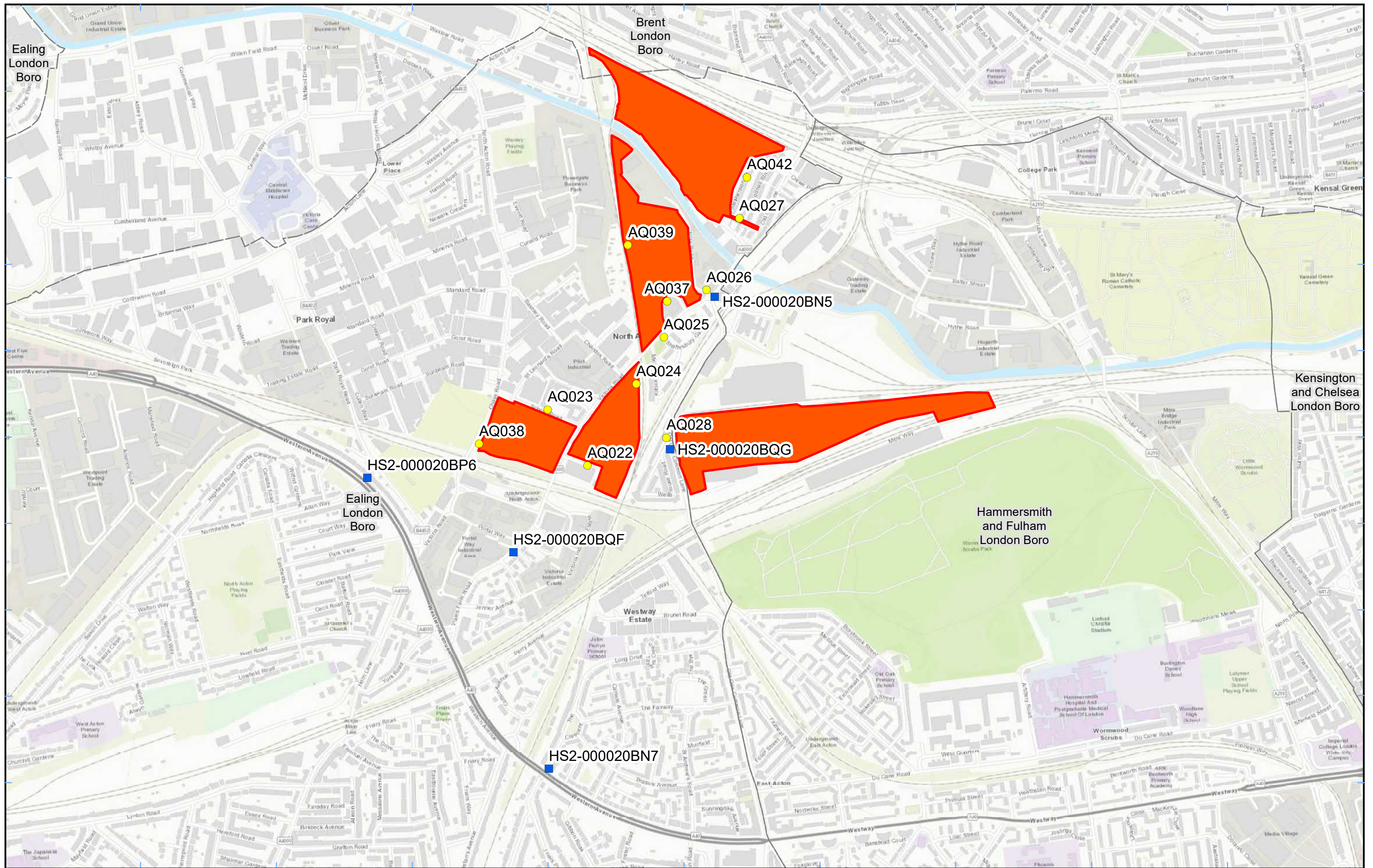
#### **Westgate Vent Shaft**

- Groundworks; and
- Piling operations.

- 1.1.5 Fifteen (15) dust monitors are installed around worksites, where works are underway. These sites returned a medium dust risk rating.
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from each dust monitor, in Figure 4. All continuous dust monitoring is undertaken using indicative monitors. Despite being Environment Agency (MCERTS) certified, indicative monitors carry a higher level of uncertainty than reference monitors, and therefore cannot be strictly compared with Air Quality Standards for human health and the environment. The purpose of the monitoring undertaken is to ensure the effectiveness of the on-site mitigation.
- 1.1.7 The trigger level for PM<sub>10</sub> concentrations of 190 µg/m<sup>3</sup>, over a 1-hour period, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites – (October 2018)*' has been applied.
- 1.1.8 One (1) dust trigger alert was recorded during the monitoring period (December 2021) and is reported in Appendix B, Table 2.
- 1.1.9 Data capture was below 90% for monitor AQ037 in December 2021 due to a loss of power to the monitor over the Christmas period.
- 1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO<sub>2</sub>) is undertaken at ten (10) locations around highways within the LBE as part of the management of air quality where significant effects may occur as a result of the scheme.
- 1.1.11 Diffusion tube monitoring results are provided from the laboratory analysis, and therefore still require various analysis and adjustments to be undertaken. Final corrected results will be presented and described in the annual report. However, based on the results to date, no unexpected values were recorded during the monitoring period.
- 1.1.12 NO<sub>2</sub> monitoring locations and results are presented in Appendix C, Table 3, together with the 2021 running mean.
- 1.1.13 There were no (0) complaints received during this reporting period.

# Appendix A – Worksites and Monitoring Locations

Figure 1 to Figure 3: Worksites and monitoring locations within the LBE



**Legend**

- Diffusion Tube
- Worksite
- Dust Monitor
- District Borough Unitary Boundaries

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Map Number

Map Name

**Worksite and Monitoring Locations  
In LBE (Sheet 1)**

**London Borough of Ealing**

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- Legend**
- Diffusion Tube
  - Worksite
  - Dust Monitor
  - District Borough Unitary Boundaries

Map Number  
 Worksite and Monitoring Locations  
 In LBE (Sheet 2)

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London Borough of Ealing

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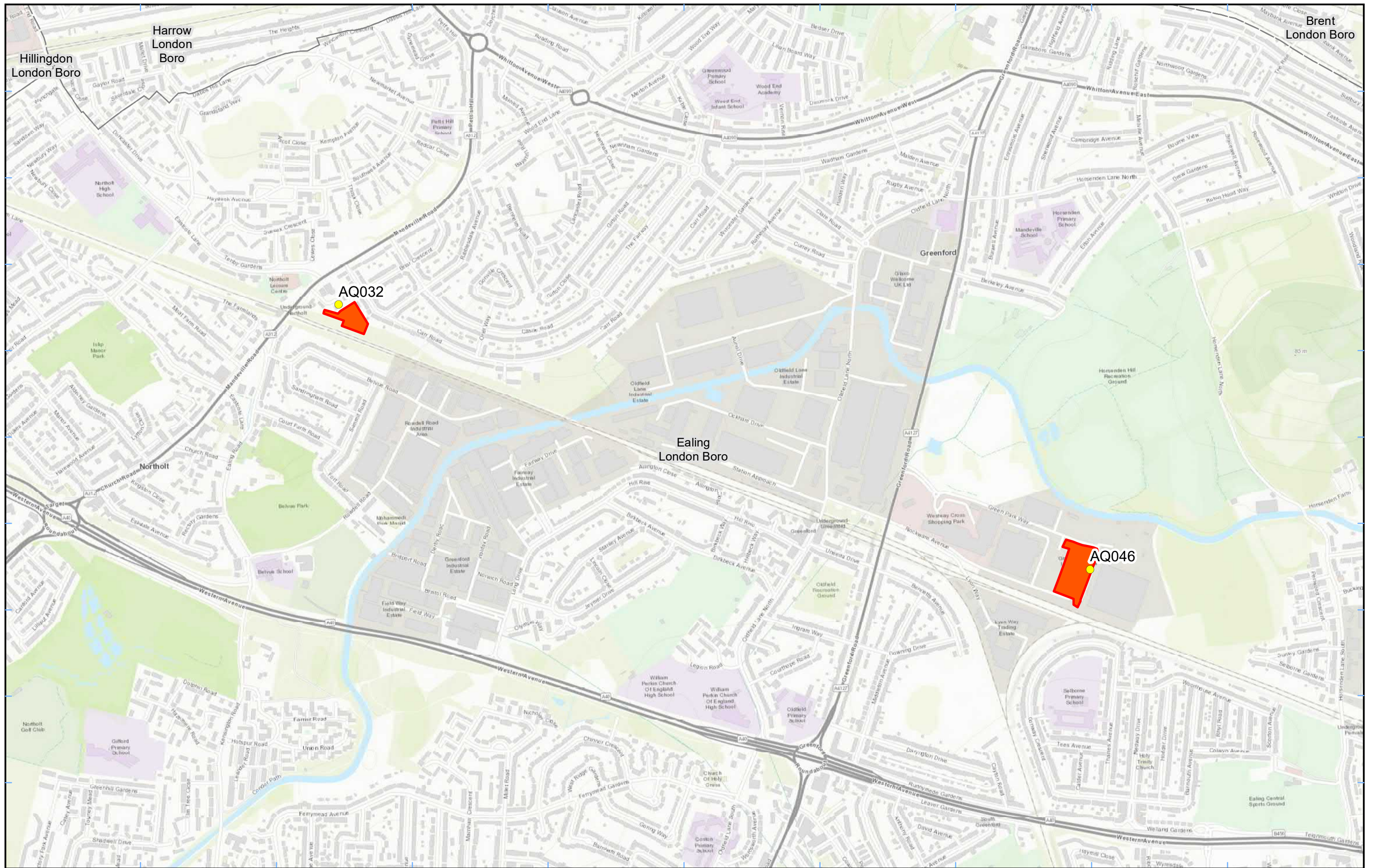
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**Legend**  
 Dust Monitor  
 Worksite  
 District Borough Unitary Boundaries

Map Number  
 Worksite and Monitoring Locations  
 In LBE (Sheet 3)  
 London Borough of Ealing

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## Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and December 2021 results

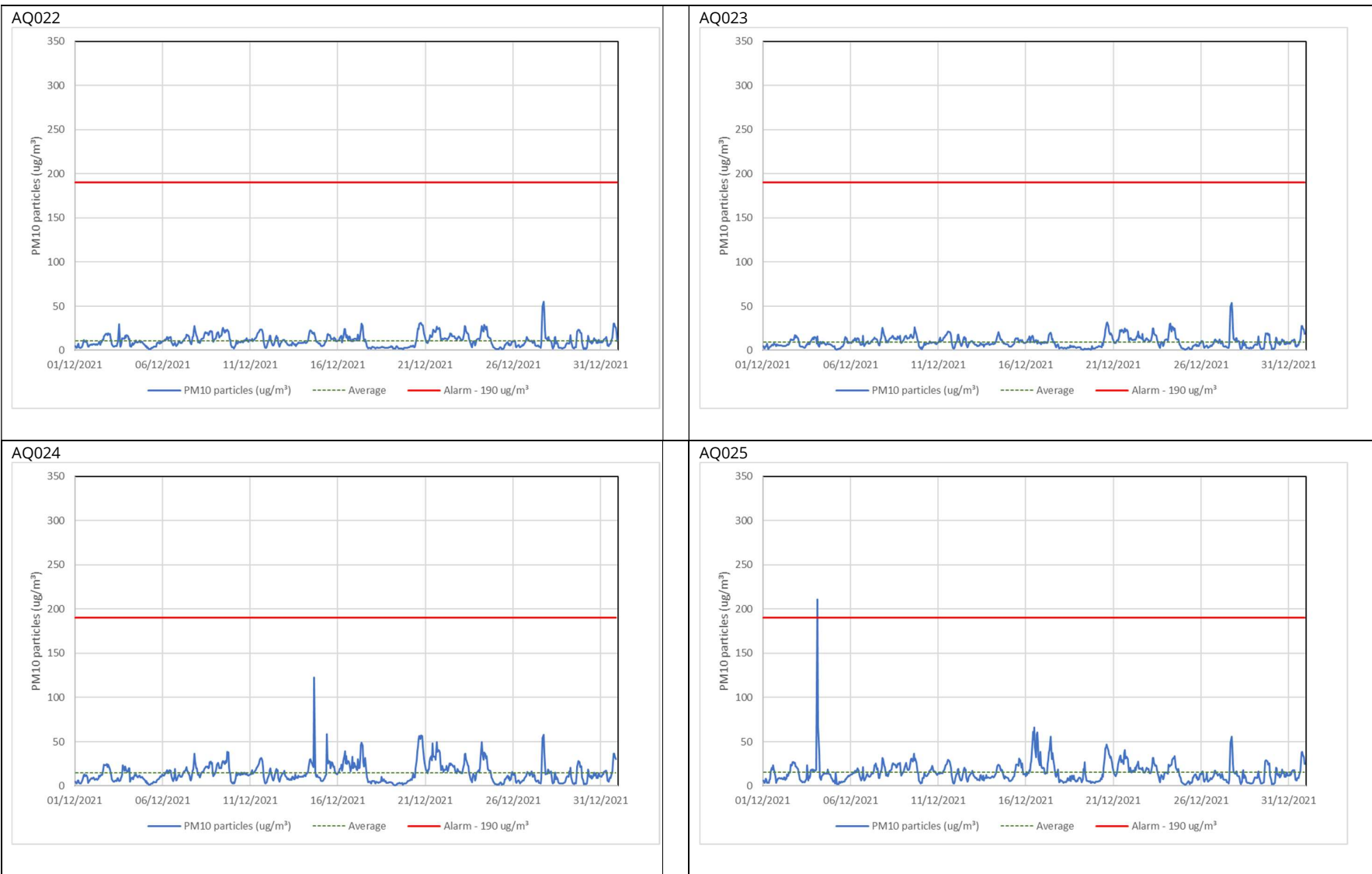
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture
AQ022	521072, 181985	Boden House	M	Yes	N	11.0	1.2	55.0	0	99.9
AQ023	520956, 182149	School Road	M	Yes	N	9.6	0.6	54.0	0	100.0
AQ024	521214, 182223	Braitrim House	M	Yes	N	14.7	0.6	122.8	0	100.0
AQ025	521295, 182360	Victoria Road	M	Yes	N	15.5	1.6	210.7	1	99.9
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	11.3	1.1	56.3	0	100.0
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	13.5	0.8	94.1	0	100.0
AQ028	521302, 182067	Wells House Road	H	Yes	N	11.8	0.4	84.0	0	100.0
AQ032	513402, 184536	Badminton Close	M	Yes	N	9.3	0.7	57.9	0	100.0
AQ037	521304, 182464	Atlas Road	M	Yes	N	9.7	0.4	62.8	0	66.8
AQ038	520756, 182049	Chase Road	M	Yes	N	10.9	1.0	51.3	0	100.0
AQ039	532417, 181198	Atlas Road 2	M	Yes	N	10.1	0.9	176.1	0	100.0
AQ042	521537, 182826	Stephenson Road	M	Yes	N	10.0	1.0	55.5	0	100.0

Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture
AQ043	513468, 184504	Mandeville Road	M	Yes	N	10.4	0.9	69.8	0	98.1
AQ046	515593, 183764	Green Park Way	M	Yes	N	9.9	0.8	61.0	0	100.0
AQ051	517976, 182823	Westgate	M	Yes	N	13.2	1.1	100.0	0	100.0

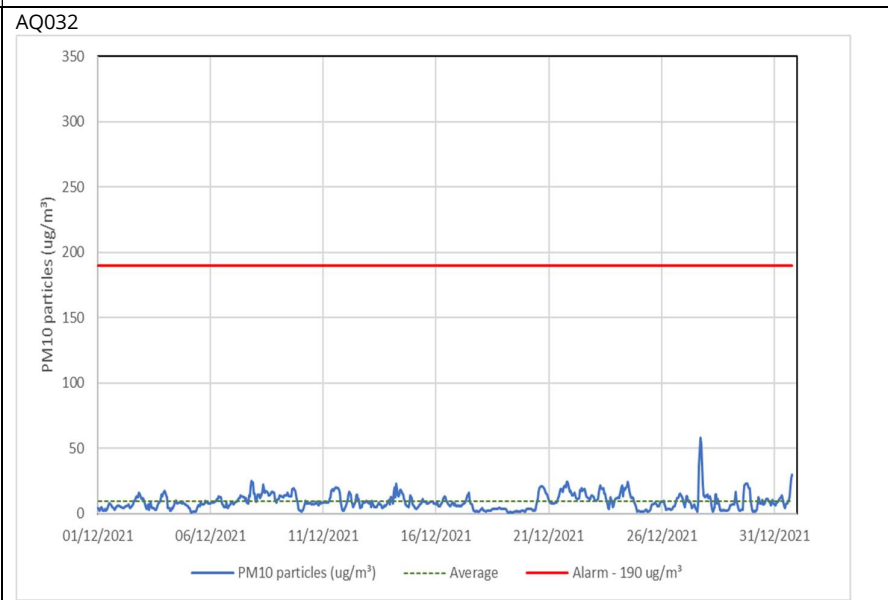
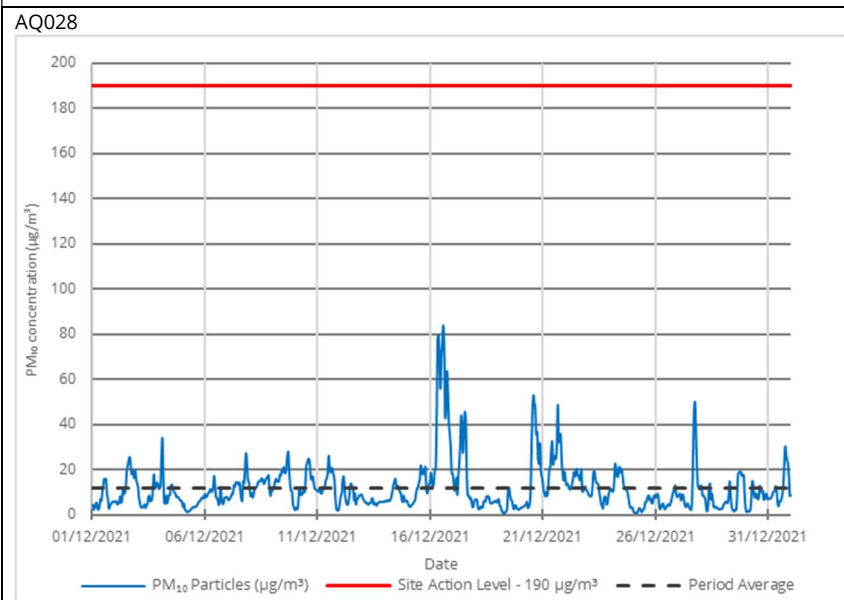
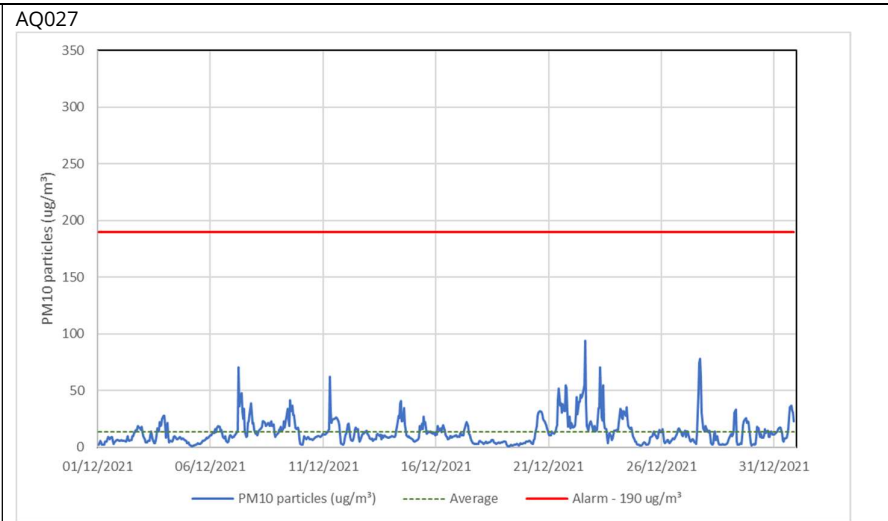
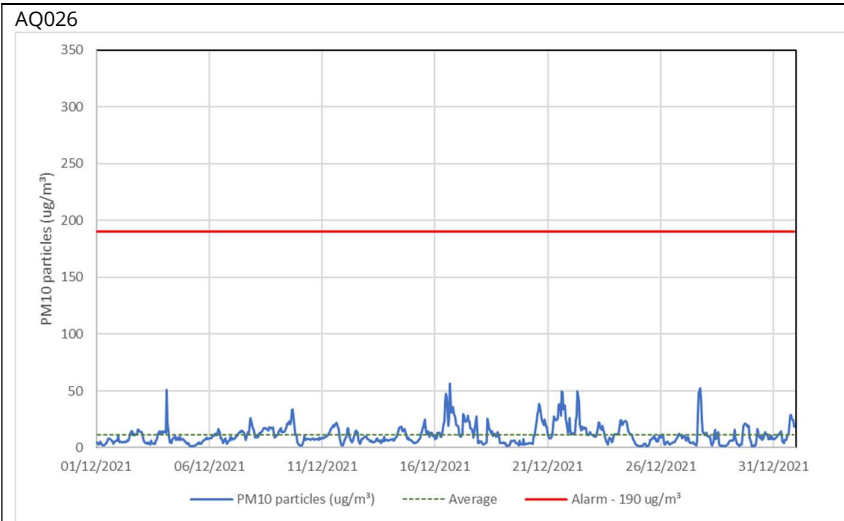
Table 2: Summary of exceedances of trigger level in December 2021

Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ025	04/12/2021 02:01 - 03:00; 210.7 ug/m <sup>3</sup>	The isolated spike during the early hours of the morning was considered to be associated with high moisture/ humidity - not dust.	n/a

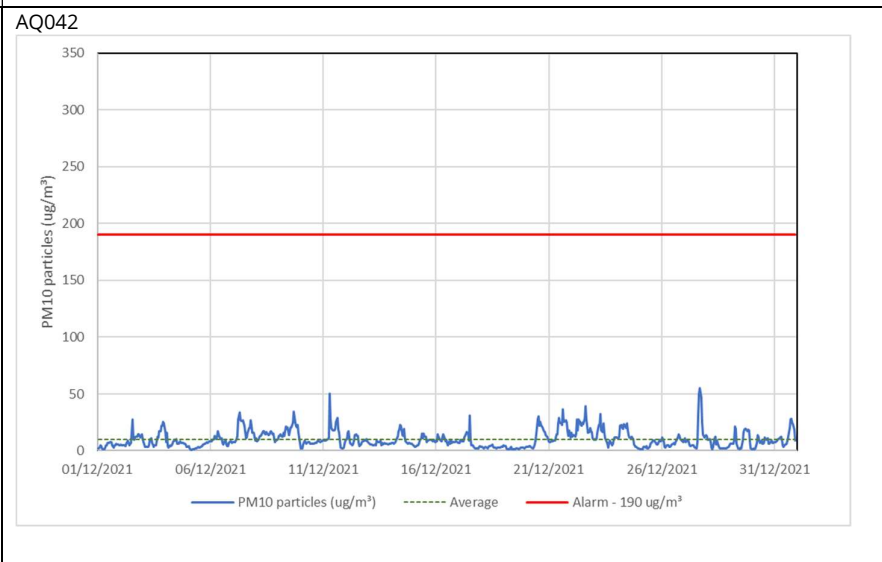
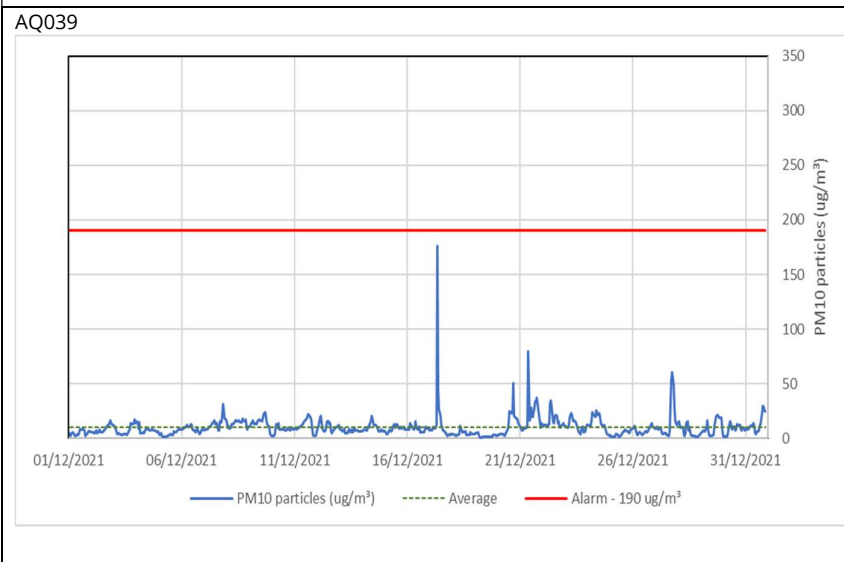
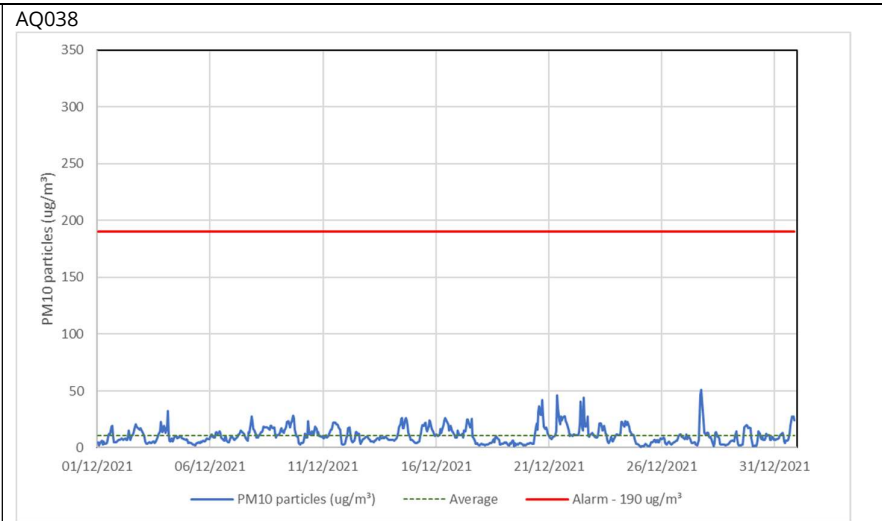
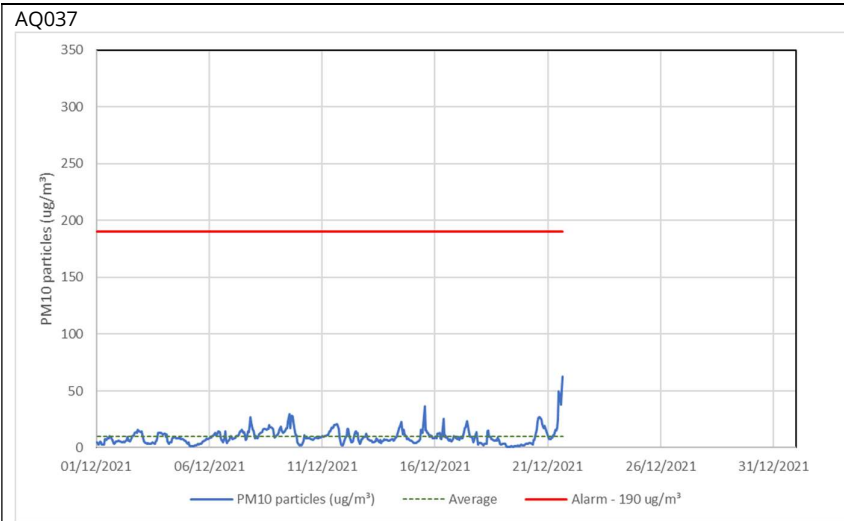
Figure 4: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for dust monitors

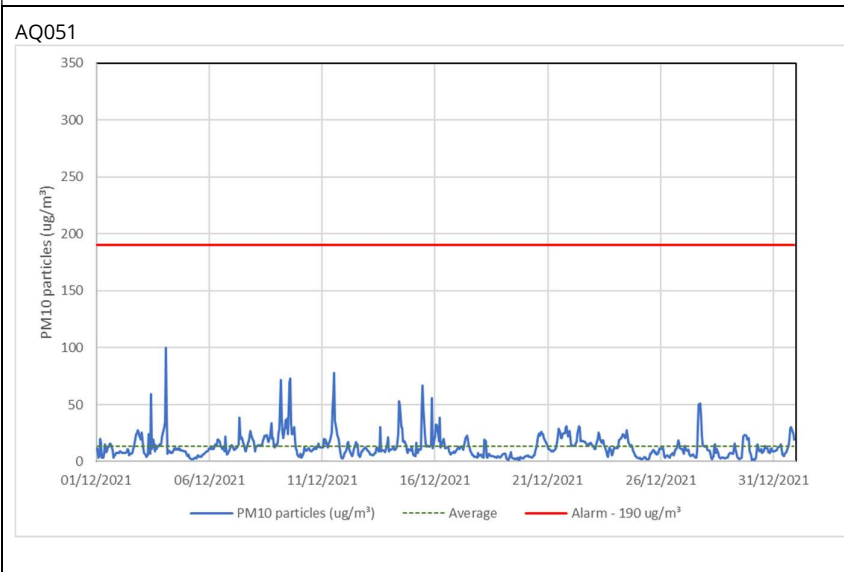
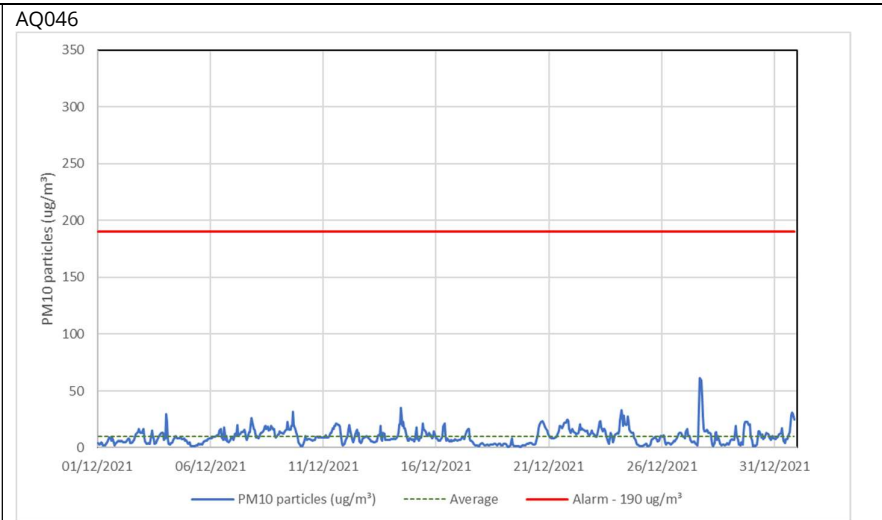
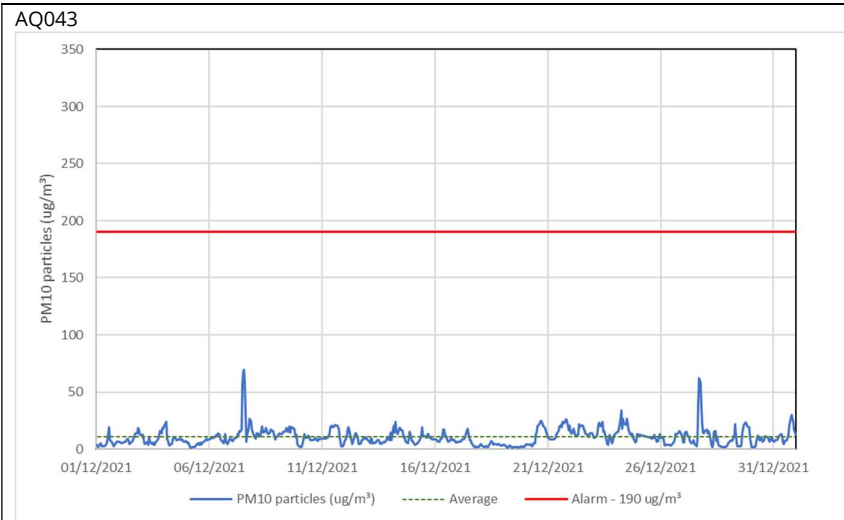


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## Appendix C – Air Quality Monitoring Results

Table 3: NO<sub>2</sub> monitoring locations around highways, NO<sub>2</sub> concentrations and monthly monitoring results with running mean for 2021 (µg/m<sup>3</sup>)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sub>1</sub>
HS2-000020BN5	Sign post on Victoria Road	521443, 182477	57	47	Tube Missing	45	48	35	51	42	60	58	52		49
HS2-000020BN7	The Approach street sign	520959, 181102	56	47	45	41	49	38	29	38	55	57	55		46
HS2-000020BQF	Conway Drive sign post	520856, 181733	58	53	49	53	51	46	42	40	63	54	49		51
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	39	44	38	36	38	15	32	40	57	52	49		40
HS2-000020BQZ	Lamp post on Victoria Road opposite Tudor House	521354, 182425									66	49	55		57
HS2-000020BR0	Sign post on Shaftesbury Gardens	521295, 182354									38	38	42		39
HS2-000020BR1	Lamp post on Midland Terrace	521263, 182298									37	35	41		38
HS2-000020BR2	Lamp post on Victoria Road outside Papa John's	520702, 181844									57	48	55		53

<sup>1</sup> Note: to aid interpretation and conform with best practice, the monthly measurements in this table are reported rounded to the nearest whole number. The annual mean presented here is calculated based on laboratory data to 4 significant figures, rounded to a whole number, and therefore may differ slightly to a mean derived from averaging the rounded monthly measurements in the table.

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Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sub>1</sub>
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	51	51	46	41	48	37	41	32	54	52	48		46
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyratory roadside automatic monitoring station	518537, 182708	63	69	68	54	72	57	55	48	52	76	64		62